MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Aluminum World, Inc.
4401 East 10th Avenue
Hialeah, Florida 33013

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 22 ga. (0.029" min.) Galvanized Steel Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 10-ALW-0001, titled " 22 ga. (0.029") Galvanized Steel Storm Panels", sheets 1 through 4 of 4, prepared by Engineering Express, dated January 31, 2005, last revised on April 20, 2012, signed & sealed by Frank L. Bennardo, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and the expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA # 10-0928.07** and consists of this page 1, evidence submitted pages E-1 and E-2 as well as approval document mentioned above.
The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**

MIAMI-DADE COUNTY APPROVED

Helmy A. Makar
09/27/2012

NOA No. 12-0523.03
Expiration Date: 09/08/2015
Approval Date: 09/27/2012

Aluminum World, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #05-0215.03

A. DRAWINGS

1. *Drawing No. 04-166-0001, titled " 22 ga. (0.029") Galvanized Steel Storm Panels", sheets 1 through 4 of 4, prepared by Frank L. Bennardo, P.E., Inc., dated August 08, 2005, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *Test report on Large Missile Impact Test, Cyclic Wind Pressure Test and Uniform Static Air Pressure Test on " 22 ga. Galvanized Steel storm panels" , prepared by Construction Testing Corporation, Report No. 04-014, dated October 22, 2004, signed and sealed by Yamil G. Kuri, P.E.*

C. CALCULATIONS

1. *Storm panel calculations, titled "22 ga. (0.029" thick) Galvanized Steel Storm Panels", sheets 1 through 35 of 35, prepared by Frank L. Bennardo, P.E., Inc., dated January 17, 2005, signed and sealed by Frank L. Bennardo, P.E. on February 11, 2005.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E . MATERIAL CERTIFICATIONS

1. *Tensile Test Report from Certified Testing Laboratories, Project # CTL#0621K dated 08/30/04 for 22 ga. Galvanized Steel sample, tested per ASTM E8-93, signed and sealed by Ramesh Patel, P.E.*
2. *Mill Certified Inspection Report, dated 01/28/2004, for Galvanized Steel by Century Metals & Supplies, Inc. with chemical composition and physical properties.*

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 10-0928.07

A. DRAWINGS

1. *Drawing No. 10-ALW-0001, titled " 22 ga. (0.029") Galvanized Steel Storm Panels", sheets 1 through 4 of 4, prepared by Engineering Express, dated September 21, 2010, signed and sealed by Frank L. Bennardo, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *Anchor Analysis, dated September 22, 2010, 23 pages, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E., on September 22, 2010.*

Helmy A. Makar, P.E., M.S.
Product Control Unit Supervisor
NOA No. 12-0523.03
Expiration Date: 09/08/2015
Approval Date: 09/27/2012

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

D. QUALITY ASSOURANCE

1. By Miami-Dade County Building and Neighborhood Compliance Department (BNC).

E. MATERIAL CERTIFICATIONS

1. None.

3. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. 10-ALW-0001, titled " 22 ga. (0.029") Galvanized Steel Storm Panels", sheets 1 through 4 of 4, prepared by Engineering Express, dated January 31, 2005, last revised on April 20, 2012, signed & sealed by Frank L. Bennardo, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. Anchor Analysis, dated May 17, 2012, 10 pages, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.

D. QUALITY ASSOURANCE

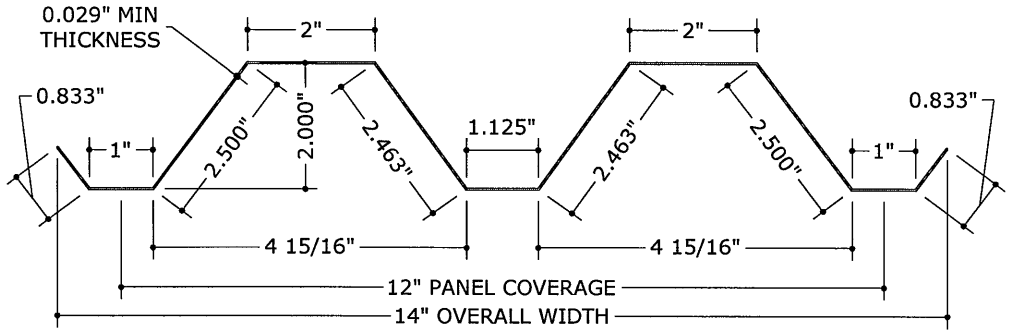
1. By Miami-Dade County Department of Regulatory and Economic Resources.

E. MATERIAL CERTIFICATIONS

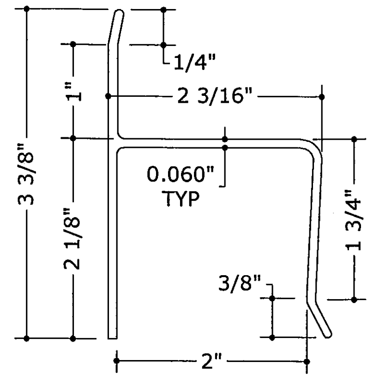
1. None.

Helmy A. Makar, P.E., M.S.
Product Control Unit Supervisor
NOA No. 12-0523.03
Expiration Date: 09/08/2015
Approval Date: 09/27/2012

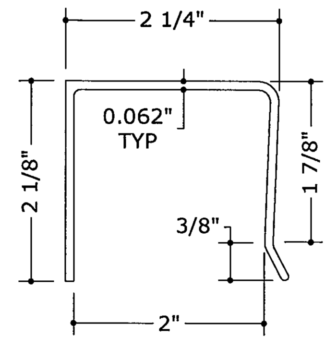
22ga (0.029") GALV STEEL STORM PANELS



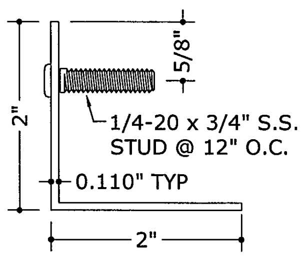
1 TYP STORM PANEL PROFILE
4" = 1'-0" SECTION



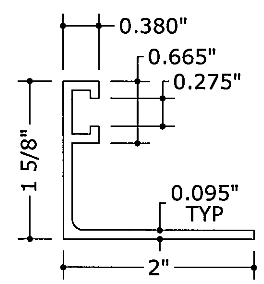
2 "h" HEADER
6" = 1'-0"



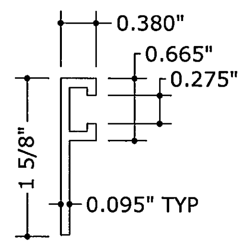
3 "U" HEADER
6" = 1'-0"



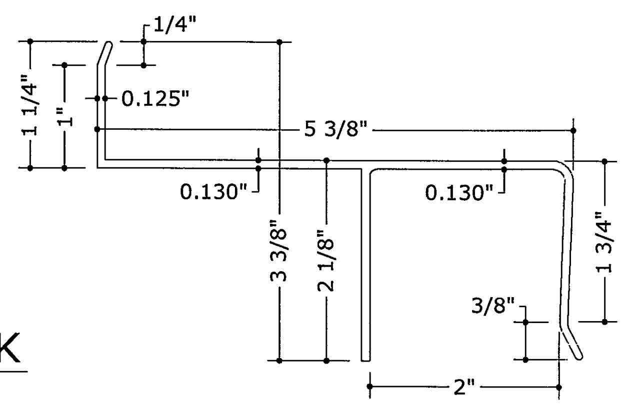
4 STUDDED ANGLE
6" = 1'-0"



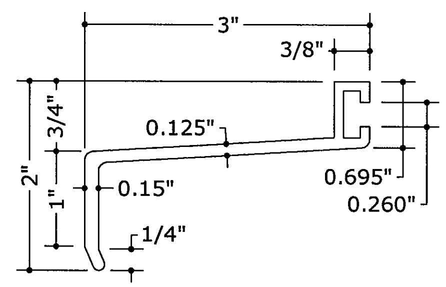
5a "E" TRACK
6" = 1'-0"



5b "F" TRACK
6" = 1'-0"



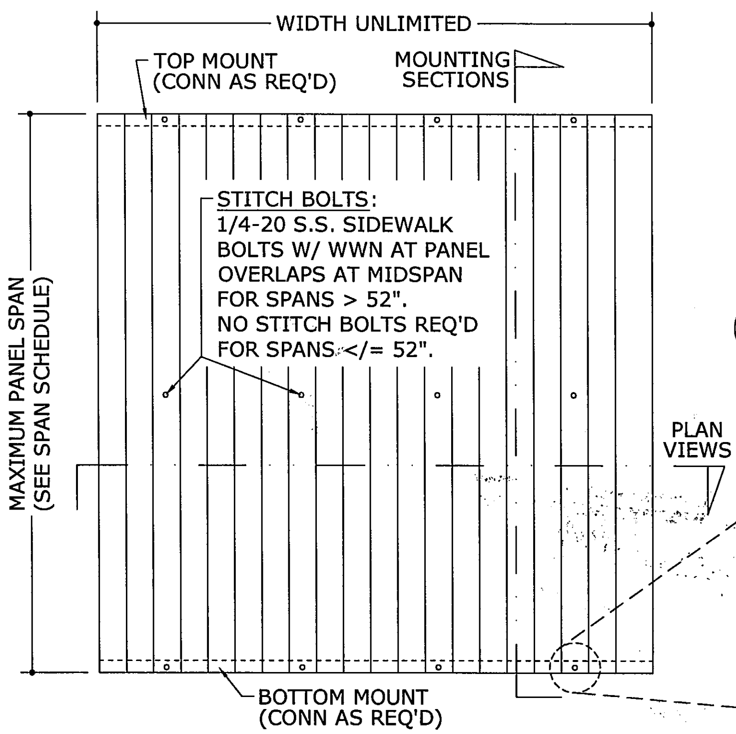
6 BUILDOUT "h" HEADER
6" = 1'-0"



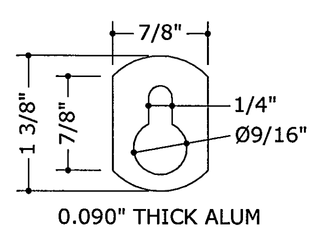
7 BUILDOUT "F" TRACK
6" = 1'-0"

GENERAL NOTES:

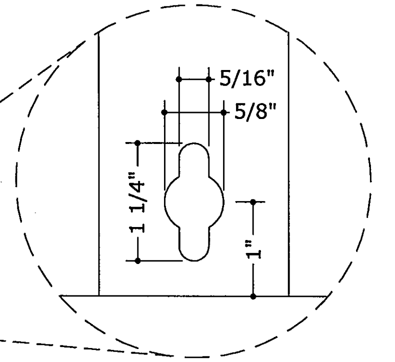
1) THIS SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2010 FLORIDA BUILDING CODE FOR USE WITHIN THE HIGH VELOCITY HURRICANE ZONE, PER TESTING PROTOCOLS TAS 201, 202, & 203.
2) NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
3) POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7-10 AND CHAPTER 1609 OF THE 2010 FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
4) DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
5) THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS TO BE USED IN CONJUNCTION WITH THIS DOCUMENT AND APPLY FOR A ONE-TIME NOTICE OF ACCEPTANCE.
6) PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND NEW SUPERIMPOSED LOADS.
7) ALL STORM PANELS SHALL HAVE A MINIMUM GALVANIZED THICKNESS t=0.0290" CONFORMING TO ASTM A653, STRUCTURAL QUALITY GRADE 80, WITH G60 GALVANIZED COATING AND MIN Fy=88.12 KSI.
8) ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.N.O.
9) PRODUCT MARKINGS SHALL BE PLACED ON OUTSIDE OF STORM PANEL, WITH AT LEAST ONE MARKING EVERY THREE FEET AND SHALL BE PERMANENTLY LABELLED WITH THE FOLLOWING MINIMUM INFORMATION:
    ALUMINUM WORLD, INC.
    HIALEAH, FLORIDA
    TAS 201, 202 & 203
    MIAMI-DADE NOA NUMBER
10) STORM PANELS HAVE BEEN DESIGNED AND TESTED TO THE MAXIMUM SPANS AND CORRESPONDING LOADS SHOWN HEREIN. REFERENCE CONSTRUCTION TESTING CORPORATION (CTC OF MIAMI, FL) TEST REPORT #04-014.
11) TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED VERTICALLY OR HORIZONTALLY AS APPLICABLE.
12) USE OF KEYHOLE WASHERS IS OPTIONAL IN CONJUNCTION WITH ANY MOUNTING CONDITION. WASHERED WINGNUTS SHALL HAVE 0.865" MINIMUM WASHER DIAMETER.
13) ALL WASHERED WINGNUTS ("WWN") SHALL HAVE 0.865" WASHER DIAMETER.
14) ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI.



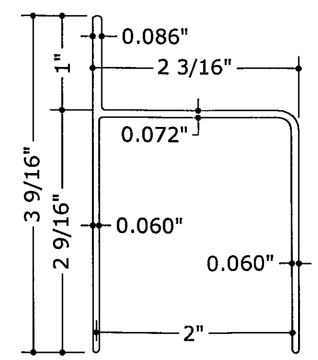
1/1 TYPICAL ELEVATION
N.T.S.



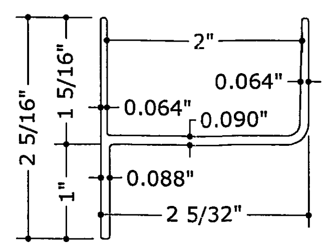
12 KEYHOLE WASHER
6" = 1'-0"



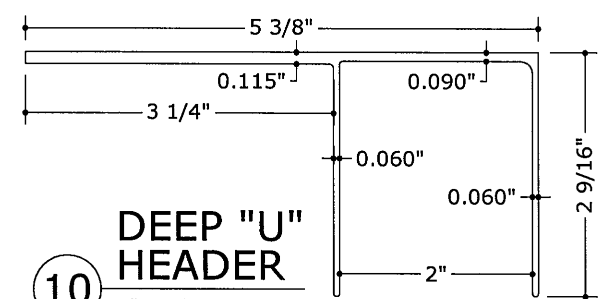
2/1 KEYHOLE PUNCH
1/2" = 1'-0" ELEV



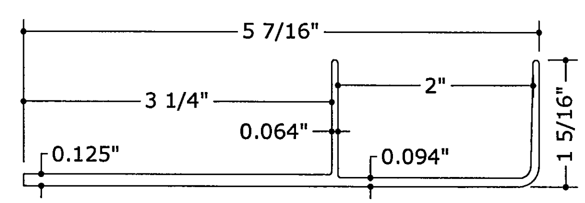
8 DEEP "h" HEADER
6" = 1'-0"



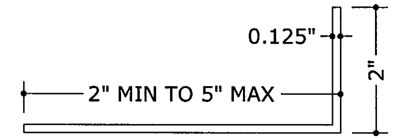
9 SHALLOW "h" SILL
6" = 1'-0"



10 DEEP "U" HEADER
6" = 1'-0"



11 SHALLOW "U" SILL
6" = 1'-0"



13 CLOSURE ANGLE
4" = 1'-0"

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 12-0523.03
Expiration Date 09/08/2015
By [signature]
Miami Dade Product Control

FRANK L. BENNARDO P.E.
#PE0046549
05/17/2012

ENGINEERING EXPRESS
160 SW 12th AVENUE, #106
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0443
WWW.ENGEXP.COM
CERT OF AUTH #9885
A FRANK L. BENNARDO, P.E., INC. INNOVATION

ALUMINUM WORLD, INC.
4401 EAST 10TH AVENUE
HIALEAH, FL 33013
PHONE: (305) 825 - 1355 FAX: (305) 825 - 1356

22ga (0.029" THICK) GALVANIZED STEEL STORM PANELS WITH INTERIOR MOUNT TRACK OPTIONS
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	CL	FLB	01/31/05
COUNTY COMMENTS	AML	FLB	08/08/05
REV. & RENEW 2007 FBC	KL	FLB	09/21/10
2010 FBC	FLB	FLB	04/20/12
-	-	-	-

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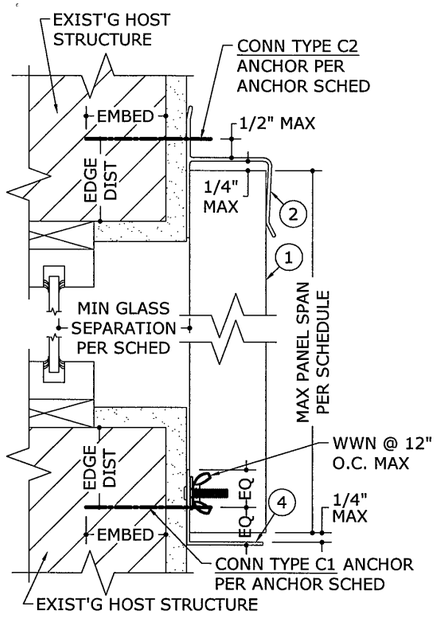
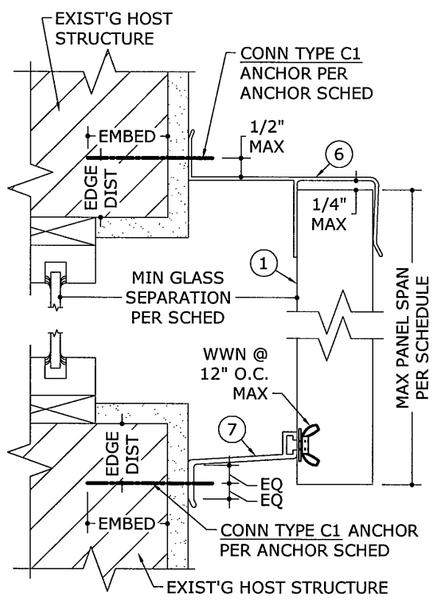
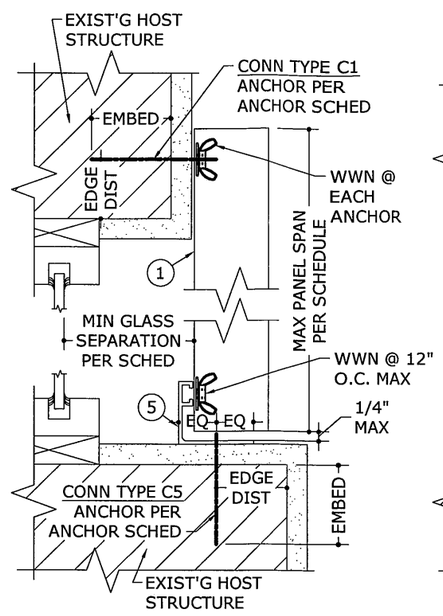


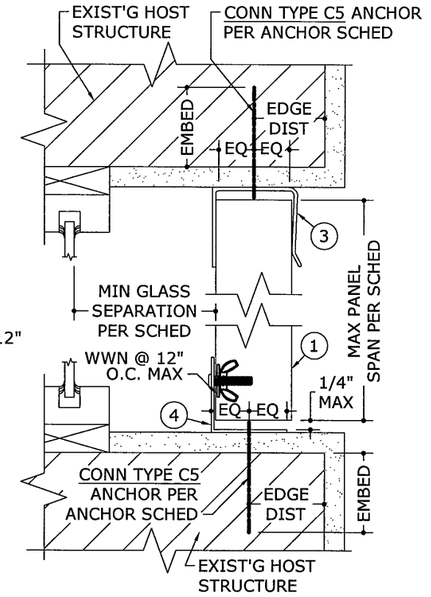
1/2 — "h" HEADER / STUD ANGLE (WALL)
3" = 1'-0" MOUNTING SECTION



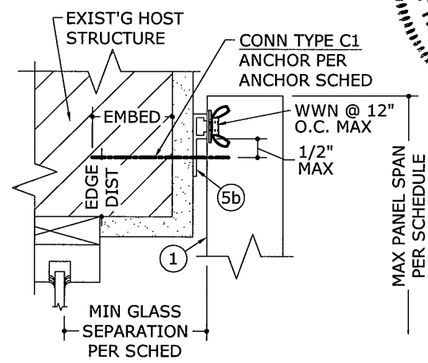
2/2 — B.O. "h" HEADER / B.O. "F" TRACK
3" = 1'-0" MOUNTING SECTION



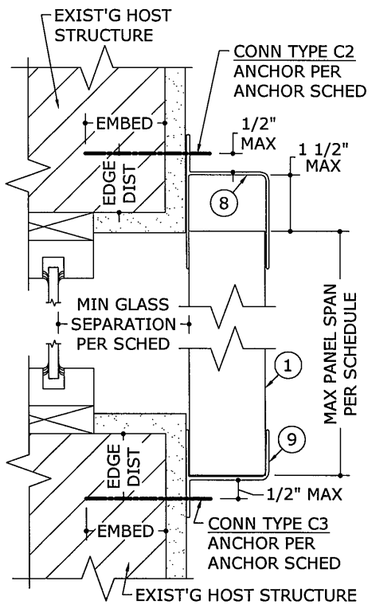
3/2 — DIRECT MOUNT / "E" TRACK
3" = 1'-0" MOUNTING SECTION



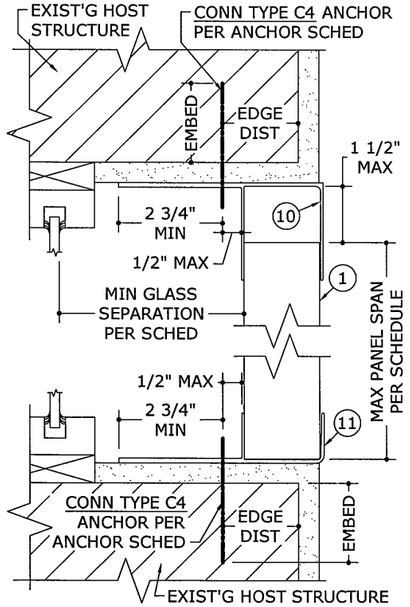
4/2 — "U" HEADER / STUD ANGLE (SILL)
3" = 1'-0" MOUNTING SECTION



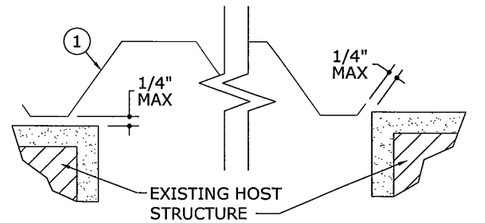
5/2 — "F" TRACK
3" = 1'-0" MOUNTING SECTION



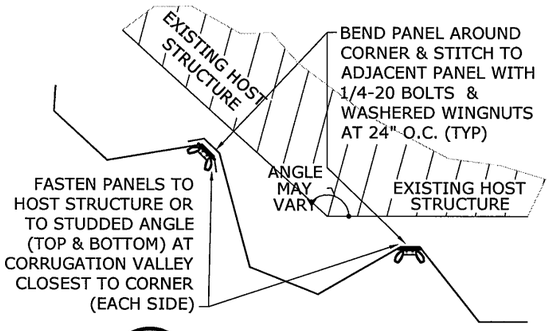
6/2 — DEEP "h" HEADER / SHALLOW "h" SILL
3" = 1'-0" INTER MOUNT SECTION



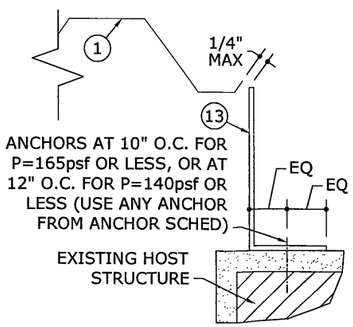
7/2 — DEEP "U" HEADER / SHALLOW "U" SILL
3" = 1'-0" INTER MOUNT SECTION



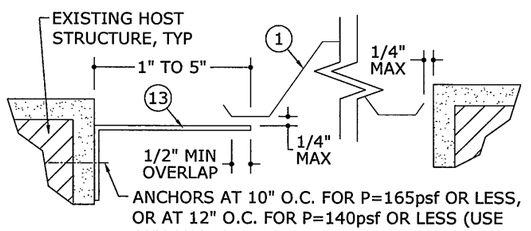
8/2 — WALL MOUNT CLOSURE
3" = 1'-0" HORIZ SECT



10/2 — CORNER CLOSURE
N.T.S. HORIZ SECT



9/2 — BUILD-OUT CLOSURE
3" = 1'-0" HORIZ SECT



11/2 — TRAP MOUNT CLOSURE
3" = 1'-0" HORIZ SECT

REFER TO DETAIL 1/3 FOR ISOMETRIC DEPICTION OF INTERIOR MOUNT METHOD

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 12-0523.03
Expiration Date 09/08/2015
By
Miami Dade Product Control

FRANK L. BENNARDO LICENSE — FRANK L. BENNARDO, P.E. #PE0046359 — No. 46359 — 05/10/2012 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

ENGINEERING EXPRESS, INC.
160 SW 12th AVENUE #1067
DEERFIELD BEACH, FL 33442-3427
PH: (954) 354-0660 FAX: (954) 354-0663
WWW.ENGEXP.COM
CERT OF AUTH #8885
A. FRANK L. BENNARDO, P.E., INC. INNOVATION

ALUMINUM WORLD, INC.
4401 EAST 10TH AVENUE
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PHONE: (305) 825 - 1355 FAX: (305) 825 - 1356

22ga (0.029" THICK) GALVANIZED STEEL STORM PANELS
WITH INTERIOR MOUNT TRACK OPTIONS
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHK'D	DATE
INIT ISSUE	CL	FLB	01/31/05
COUNTY COMMENTS	AML	FLB	08/08/05
REV. & RENEW 2007 FBC	KL	FLB	09/21/10
2010 FBC		FLB	04/20/12
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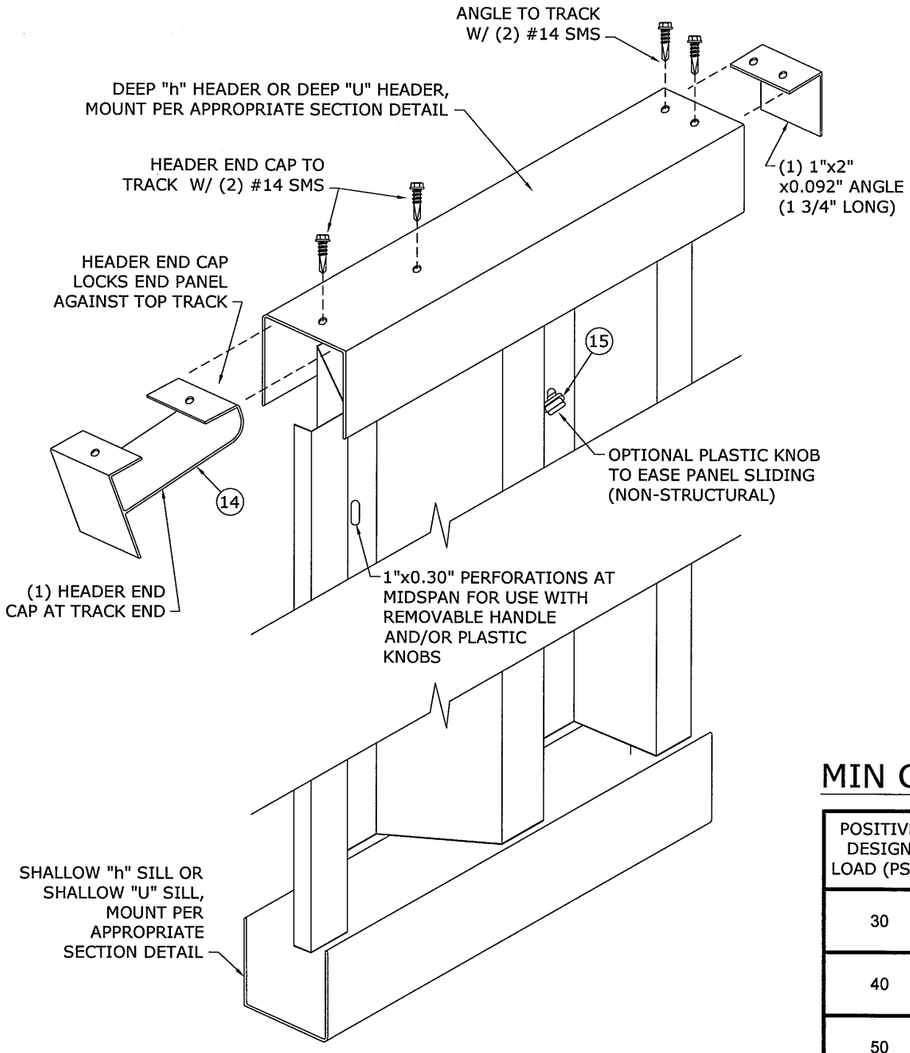
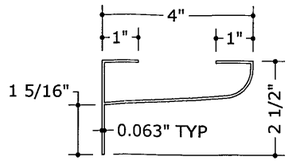
05/17/2012 - 4:21pm keithl



1/3 INTERIOR TRACK MOUNT

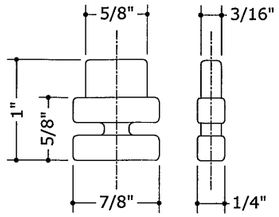
3" = 1'-0" ISOMETRIC

REFER TO DETAILS 6/2 & 7/2 FOR INTERIOR MOUNTING SECTIONS



14 HEADER END CAP

3" = 1'-0"



15 OPTIONAL PLASTIC KNOB

N.T.S.

MAX SPAN SCHEDULE

DESIGN LOAD (+) OR (-) W (psf)	MAX PANEL SPAN Lmax (ft)
40	11'-0"
45	10'-8"
50	10'-2"
55	9'-8"
60	9'-2"
65	8'-6"
70	7'-11"
75	7'-4"
80	6'-11"
90	6'-1"
100	5'-6"
120	4'-7"
160	3'-5"

MAX SPAN SCHEDULE NOTES:

1) SPANS SHOWN IN "MAX SPAN SCHEDULE" ABOVE ARE MAXIMUM ALLOWABLE SPANS AT EACH RESPECTIVE DESIGN PRESSURE. THIS SCHEDULE MAY BE USED FOR ALL PANELS MOUNTED WITH ANY COMBINATION OF EXTRUSIONS OR DIRECTLY TO HOST STRUCTURE.
2) TABLES ABOVE ARE VALID FOR PANELS MOUNTED HORIZONTALLY OR VERTICALLY.
3) FOR DESIGN LOADS BETWEEN TABULATED VALUES USE NEXT HIGHER LOAD, OR LINEAR INTERPOLATION MAY BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER TO DETERMINE ALLOWABLE SPANS.

MIN GLASS SEPARATION SCHEDULE:

POSITIVE DESIGN LOAD (PSF)	SPAN	MIN SEPARATION FOR INSTALLATIONS 0-30' ABOVE GRADE	MIN SEPARATION FOR INSTALLATIONS >30' ABOVE GRADE
30	6'-0"	2.88"	1.13"
	8'-8"	2.88"	1.57"
	11'-0"	3.00"	2.48"
40	6'-0"	2.88"	1.17"
	8'-8"	2.88"	1.00"
	11'-0"	3.00"	2.97"
50	6'-0"	2.88"	1.22"
	8'-8"	2.88"	1.95"
	10'-2"	3.00"	2.80"
60	6'-0"	2.88"	1.26"
	8'-8"	2.88"	2.14"
	9'-2"	3.00"	2.43"
70	6'-0"	2.88"	1.31"
	7'-11"	2.88"	1.92"
80	6'-0"	2.88"	1.35"
	6'-11"	2.88"	1.62"

MIN SEPARATION FROM GLASS SCHEDULE NOTES:

1) MINIMUM DISTANCE BETWEEN GLAZING AND STORM PANELS NOTED ABOVE APPLIES TO ALL MOUNTING CONDITIONS, EXCEPT AS NOTED BELOW.
2) INTERIOR MOUNT CONDITIONS DEPICTED IN DETAILS 6/2 & 7/2 (i.e. USING PART Nos. 8, 9, 10, OR 11 TOGETHER OR WITH ANY OTHER MOUNTING CONDITION) SHALL BE MOUNTED WITH 3" MINIMUM SEPARATION FROM GLAZING.
3) FOR DESIGN LOADS & SPANS BETWEEN TABULATED VALUES USE NEXT HIGHER VALUE, OR LINEAR INTERPOLATION MAY BE PERFORMED BY A LICENSED PROFESSIONAL ENGINEER TO DETERMINE MIN SEPARATION FROM GLAZING.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 12-0523.03
Expiration Date 09/08/2015
By
Miami Dade Product Control

FRANK L. BENNARDO, P.E.
LICENSE NO 46549
STATE OF FLORIDA
05/17/2012
PROFESSIONAL ENGINEER

ENGINEERING EXPRESS®
160 SW 12th AVENUE #196
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0443
WWW.ENGEXP.COM
CERT OF AUTH #8885
A. FRANK L. BENNARDO, P.E., INC. INNOVATION

ALUMINUM WORLD, INC.
4401 EAST 10TH AVENUE
HIALEAH, FL 33013
PHONE: (305) 825 - 1355 FAX: (305) 825 - 1356

22ga (0.029" THICK) GALVANIZED STEEL STORM PANELS
WITH INTERIOR MOUNT TRACK OPTIONS
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	CL	FLB	01/31/05
COUNTY COMMENTS	AML	FLB	08/08/05
REV. & RENEW 2007 FBC	KL	FLB	09/21/10
2010 FBC		FLB	04/20/12
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ANCHOR SCHEDULE:

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE														
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-8" CONN TYPE					Spans Up To 11'-0" CONN TYPE				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
CONCRETE	1/4" ELCO ULTRACON WITH 1-3/4" MIN EMBED (2846psi MIN CONC)	39	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	10.5"	16.0"	16.0"	12.9"	16.0"	7.2"	16.0"	14.3"	10.1"
		49	16.0"	13.5"	16.0"	16.0"	14.8"	16.0"	7.3"	16.0"	14.4"	10.2"	16.0"	5.2"	14.3"	11.3"	8.1"
		58	16.0"	10.0"	16.0"	16.0"	12.5"	16.0"	5.7"	16.0"	12.2"	8.6"	16.0"	5.0"	13.3"	11.0"	7.8"
		72	16.0"	7.1"	16.0"	14.2"	10.1"	16.0"	5.0"	13.3"	11.0"	7.8"	16.0"	5.0"	13.3"	11.0"	7.8"
		130	16.0"	5.0"	13.3"	11.0"	7.8"	16.0"	5.0"	13.3"	11.0"	7.8"	16.0"	5.0"	13.3"	11.0"	7.8"
	1/4" ITW TAPCON WITH 1-3/4" MIN EMBED (3192psi MIN CONC)	39	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.3"	16.0"	16.0"	13.9"	16.0"	8.4"	16.0"	14.9"	10.9"
		49	16.0"	15.8"	16.0"	16.0"	16.0"	16.0"	8.5"	16.0"	15.0"	11.0"	16.0"	6.1"	16.0"	11.8"	8.7"
		58	16.0"	11.7"	16.0"	16.0"	13.5"	16.0"	6.7"	16.0"	12.7"	9.3"	16.0"	5.9"	15.6"	11.5"	8.5"
		72	16.0"	8.3"	16.0"	14.8"	10.9"	16.0"	5.9"	15.6"	11.5"	8.5"	16.0"	5.9"	15.6"	11.5"	8.5"
		130	16.0"	5.9"	15.6"	11.5"	8.5"	16.0"	5.9"	15.6"	11.5"	8.5"	16.0"	5.9"	15.6"	11.5"	8.5"
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 1-3/4" MIN EMBED (3350psi MIN CONC) *	39	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	12.2"	16.0"	16.0"	14.1"	16.0"	8.4"	16.0"	15.3"	11.1"
		49	16.0"	15.7"	16.0"	16.0"	16.0"	16.0"	8.5"	16.0"	15.4"	11.2"	16.0"	6.1"	16.0"	12.2"	8.9"
		58	16.0"	11.6"	16.0"	16.0"	13.7"	16.0"	6.7"	16.0"	13.0"	9.5"	16.0"	5.8"	15.5"	11.8"	8.6"
		72	16.0"	8.3"	16.0"	15.2"	11.1"	16.0"	5.8"	15.5"	11.8"	8.6"	16.0"	5.8"	15.5"	11.8"	8.6"
		130	16.0"	5.8"	15.5"	11.8"	8.6"	16.0"	5.8"	15.5"	11.8"	8.6"	16.0"	5.8"	15.5"	11.8"	8.6"
	1/4-20 ALL POINTS SOLID-SET WITH 7/8" MIN EMBED (3000psi MIN CONC) *	39	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	9.6"	16.0"	16.0"	12.8"	16.0"	6.6"	16.0"	14.7"	10.1"
		49	16.0"	12.4"	16.0"	16.0"	14.7"	16.0"	6.7"	16.0"	14.8"	10.2"	16.0"	4.8"	13.1"	11.7"	8.0"
		58	16.0"	9.2"	16.0"	16.0"	12.4"	16.0"	5.2"	15.9"	12.5"	8.6"	16.0"	4.6"	12.2"	11.4"	7.8"
		72	16.0"	6.5"	16.0"	14.6"	10.0"	16.0"	4.6"	12.2"	11.4"	7.8"	16.0"	4.6"	12.2"	11.4"	7.8"
		130	16.0"	4.6"	12.2"	11.4"	7.8"	16.0"	4.6"	12.2"	11.4"	7.8"	16.0"	4.6"	12.2"	11.4"	7.8"

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE														
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-8" CONN TYPE					Spans Up To 11'-0" CONN TYPE				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
WOOD (G=0.55 MIN)	1/4" LAG SCREW WITH 1.5" MIN THREAD PENETRATION (EMBED)	39	16.0"	16.0"	16.0"	15.2"	12.9"	16.0"	14.0"	16.0"	10.5"	8.9"	16.0"	9.6"	16.0"	8.3"	7.0"
		49	16.0"	16.0"	16.0"	12.1"	10.3"	16.0"	9.7"	16.0"	8.4"	7.1"	16.0"	6.9"	16.0"	6.6"	5.6"
		58	16.0"	13.3"	16.0"	10.2"	8.7"	16.0"	7.6"	16.0"	7.1"	6.0"	16.0"	6.7"	16.0"	6.4"	5.4"
		72	16.0"	9.5"	16.0"	8.2"	7.0"	16.0"	6.7"	16.0"	6.4"	5.4"	16.0"	6.7"	16.0"	6.4"	5.4"
		130	16.0"	6.7"	16.0"	6.4"	5.4"	16.0"	6.7"	16.0"	6.4"	5.4"	16.0"	6.7"	16.0"	6.4"	5.4"
	#14 WOOD SCREW WITH 1.5" MIN THREAD PENETRATION	39	16.0"	15.9"	16.0"	14.0"	10.7"	16.0"	7.5"	16.0"	9.7"	7.4"	16.0"	5.1"	16.0"	7.6"	5.9"
		49	16.0"	9.7"	16.0"	11.1"	8.5"	16.0"	5.2"	16.0"	7.7"	5.9"	14.9"	3.7"	10.2"	6.1"	4.7"
		58	16.0"	7.1"	16.0"	9.4"	7.2"	15.9"	4.1"	12.4"	6.5"	5.0"	14.4"	3.6"	9.5"	5.9"	4.5"
		72	16.0"	5.1"	16.0"	7.6"	5.8"	14.4"	3.6"	9.5"	5.9"	4.5"	14.4"	3.6"	9.5"	5.9"	4.5"
		130	14.4"	3.6"	9.5"	5.9"	4.5"	14.4"	3.6"	9.5"	5.9"	4.5"	14.4"	3.6"	9.5"	5.9"	4.5"
	1/4" ELCO PANELMATE (MALE, FEMALE OR PLUS) W/ 1-7/8" MIN EMBED *	39	16.0"	16.0"	16.0"	16.0"	16.0"	16.0"	14.8"	16.0"	16.0"	12.8"	16.0"	10.1"	16.0"	12.6"	10.1"
		49	16.0"	16.0"	16.0"	16.0"	14.7"	16.0"	10.3"	16.0"	12.7"	10.2"	16.0"	7.3"	16.0"	10.0"	8.0"
		58	16.0"	14.1"	16.0"	15.6"	12.4"	16.0"	8.1"	16.0"	10.8"	8.6"	16.0"	7.0"	16.0"	9.8"	7.8"
		72	16.0"	10.0"	16.0"	12.5"	10.0"	16.0"	7.0"	16.0"	9.8"	7.8"	16.0"	7.0"	16.0"	9.8"	7.8"
		130	16.0"	7.0"	16.0"	9.8"	7.8"	16.0"	7.0"	16.0"	9.8"	7.8"	16.0"	7.0"	16.0"	9.8"	7.8"

HOST STRUCT.	ANCHOR	LOAD (psf)	2.5" MIN EDGE DISTANCE														
			Spans Up To 6'-0" CONN TYPE					Spans Up To 8'-8" CONN TYPE					Spans Up To 11'-0" CONN TYPE				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5
HOLLOW BLOCK	1/4" ELCO ULTRACON WITH 1-1/4" MIN EMBED	39	14.4"	6.7"	14.4"	9.2"	6.2"	9.9"	3.1"	9.9"	6.3"	4.3"	7.8"	▨	7.8"	5.0"	3.4"
		49	11.4"	4.1"	11.4"	7.3"	5.0"	7.9"	▨	7.9"	5.1"	3.4"	6.2"	▨	4.3"	4.0"	▨
		58	9.7"	▨	9.7"	6.2"	4.2"	6.7"	▨	5.2"	4.3"	▨	6.1"	▨	4.0"	3.9"	▨
		72	7.8"	▨	7.8"	5.0"	3.4"	6.1"	▨	4.0"	3.9"	▨	6.1"	▨	4.0"	3.9"	▨
		130	6.1"	▨	4.0"	3.9"	▨	6.1"	▨	4.0"	3.9"	▨	6.1"	▨	4.0"	3.9"	▨
	1/4" ITW TAPCON WITH 1-1/4" MIN EMBED	39	13.1"	6.1"	13.1"	10.6"	6.6"	9.1"	▨	9.1"	7.3"	4.6"	7.2"	▨	7.2"	5.8"	▨
		49	10.4"	3.7"	10.4"	8.4"	5.3"	7.2"	▨	7.2"	5.8"	3.7"	5.7"	▨	3.9"	4.6"	▨
		58	8.8"	▨	8.8"	7.1"	4.5"	6.1"	▨	4.8"	4.9"	3.1"	5.5"	▨	3.7"	4.5"	▨
		72	7.1"	▨	7.1"	5.7"	3.6"	5.5"	▨	3.7"	4.5"	▨	5.5"	▨	3.7"	4.5"	▨
		130	5.5"	▨	3.7"	4.5"	▨	5.5"	▨	3.7"	4.5"	▨	5.5"	▨	3.7"	4.5"	▨
	1/4" ELCO PANELMATE (FEMALE, MALE, or PLUS) W/ 1-1/4" MIN EMBED *	39	16.0"	10.4"	16.0"	12.9"	9.1"	15.5"	4.9"	15.5"	9.0"	6.3"	12.2"	3.4"	12.2"	7.1"	4.9"
		49	16.0"	6.3"	16.0"	10.3"	7.2"	12.3"	3.4"	12.3"	7.1"	5.0"	9.7"	▨	6.7"	5.6"	3.9"
		58	15.0"	4.7"	15.0"	8.7"	6.1"	10.4"	▨	8.1"	6.0"	4.2"	9.4"	▨	6.2"	5.5"	3.8"
		72	12.1"	3.3"	12.1"	7.0"	4.9"	9.4"	▨	6.2"	5.5"	3.8"	9.4"	▨	6.2"	5.5"	3.8"
		130	9.4"	▨	6.2"	5.5"	3.8"	9.4"	▨	6.2"	5.5"	3.8"	9.4"	▨	6.2"	5.5"	3.8"
	1/4-20 ALL POINTS SOLID-SET WITH 7/8" MIN EMBED *	39	16.0"	13.6"	16.0"	14.2"	10.4"	16.0"	6.4"	16.0"	9.8"	7.2"	16.0"	4.4"	16.0"	7.7"	5.7"
		49	16.0"	8.3"	16.0"	11.3"	8.3"	16.0"	4.5"	16.0"	7.8"	5.8"	12.8"	3.2"	8.8"	6.2"	4.5"
		58	16.0"	6.1"	16.0"	9.5"	7.0"	13.7"	3.5"	10.6"	6.6"	4.9"	12.4"	3.1"	8.2"	6.0"	4.4"
		72	15.9"	4.4"	15.9"	7.7"	5.7"	12.4"	3.1"	8.2"	6.0"	4.4"	12.4"	3.1"	8.2"	6.0"	4.4"
		130	12.4"	3.1"	8.2"	6.0"	4.4"	12.4"	3.1"	8.2"	6.0"	4.4"	12.4"	3.1"	8.2"	6.0"	4.4"

ANCHOR SCHEDULE NOTES:

1) SPANS AND LOADS SHOWN ARE PROVIDED FOR DETERMINING MAXIMUM ANCHOR SPACING ONLY. ALL STORM PANEL SPANS SHALL BE LIMITED AS SHOWN IN SPAN SCHEDULE.
2) ENTER ANCHOR SCHEDULE BASED ON APPROPRIATE HOST STRUCTURE MATERIAL, ANCHOR TYPE, AND CONNECTION TYPE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO PANEL SPAN.
3) REFER TO MOUNTING SECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPES.
4) 1/4" TAPCONS MAY BE BY ITW OR BY ELCO. "ELCO PANELMATE" ANCHORS FOR USE IN CONCRETE OR HOLLOW BLOCK MAY BE MALE, FEMALE, OR PANELMATE PLUS, AS ILLUSTRATED. FOR USE IN WOOD, "ELCO PANELMATE" ANCHORS MAY BE MALE OR FEMALE.
5) ENSURE MINIMUM 2-1/2" EDGE DISTANCE FOR ALL ANCHORS TO CONCRETE & TO HOLLOW BLOCK. EDGE DISTANCE OF 3/4" IS ACCEPTABLE FOR ANCHORS TO WOOD.
6) MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
7) ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
8) WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
9) WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x4 (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING). WOOD STUD SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
10) ANCHOR SCHEDULE APPLIES FOR ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
11) MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
12) * DENOTES REMOVABLE ANCHORS, WHICH ARE REQUIRED FOR DIRECT MOUNT INSTALLATIONS AT 6" OR 12" O.C. MAXIMUM ANCHOR SPACING SHOWN IN SCHEDULE FOR CONNECTION TYPE 'C1' SHALL NOT BE EXCEEDED.
13) ▨ DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 12-0523.03
Expiration Date 09/08/2015
By [signature]
Miami Dade Product Control

FRANK L. BENNARDO, P.E.
PE0046549
FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER
05/17/2012

ENGINEERING EXPRESS
160 SW 12th AVENUE, #106
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CERT OF AUTH #9885
A FRANK L. BENNARDO, P.E., INC. INNOVATION

ALUMINUM WORLD, INC.
4401 EAST 10TH AVENUE
HIALEAH, FL 33013
PHONE: (305) 825 - 1355 FAX: (305) 825 - 1356

22ga (0.029" THICK) GALVANIZED STEEL STORM PANELS WITH INTERIOR MOUNT TRACK OPTIONS
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	CL	FLB	01/31/05
COUNTY COMMENTS	AML	FLB	08/08/05
REV. & RENEW 2007 FBC	KL	FLB	09/21/10
2010 FBC	FLB	FLB	04/20/12
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